

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A flat non-porous unitary solid surface structure comprising:

(a) a flat non-porous unitary matrix made of a polymeric material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, polycarbonate, and combinations thereof; and

(b) a visible decorative object that is permanently fixated in the matrix, wherein said decorative object extends to least one edge of said matrix.

2. The solid surface structure of claim 1 wherein the matrix is made of polymethylmethacrylate.

3. The solid surface structure of claim 1 wherein the matrix is made of polyvinyl chloride.

4. The solid surface structure of claim 1 wherein the matrix is made of polycarbonate.

5. The solid surface structure of claim 1 wherein the decorative object is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

6. The solid surface structure of claim 1 wherein at least one of the outer surfaces of the matrix is embossed or textured.

7. A flat non-porous unitary solid surface structure comprising:

(a) a flat non-porous unitary matrix made of polymethylmethacrylate; and

(b) a visible decorative object that is permanently fixated in the matrix, wherein said decorative object extends to least one edge of said matrix.

8. The solid surface structure of claim 7 wherein the decorative object is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

9. The solid surface structure of claim 7 wherein at least one of the outer surfaces of the matrix is embossed or textured.

10. A flat non-porous unitary solid surface structure comprising:

(a) a flat non-porous unitary matrix made of polyvinyl chloride; and

(b) a visible decorative object that is permanently fixated in the matrix, wherein said decorative object extends to least one edge of said matrix.

11. The solid surface structure of claim 10 wherein the decorative object is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

12. The solid surface structure of claim 10 wherein at least one of the outer surfaces of the matrix is embossed or textured.

13. A flat non-porous unitary solid surface structure comprising:

(a) a flat non-porous unitary matrix made of polycarbonate; and

(b) a visible decorative object that is permanently fixated in the matrix, wherein said decorative object extends to least one edge of said matrix.

14. The solid surface structure of claim 13 wherein the decorative object is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

15. The solid surface structure of claim 13 wherein at least one of the outer surfaces of the matrix is embossed or textured.

16. A flat non-porous unitary solid surface structure comprising:

(a) a flat non-porous unitary matrix made of a polymeric material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, polycarbonate, and combinations thereof; and

(b) a visible stratum of textured material made of a material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, and polycarbonate, wherein said textured material is permanently fixated in the matrix and is co-extensive with the edges of said matrix.

17. The solid surface structure of claim 16 wherein the matrix is made of polymethylmethacrylate and the visible layer of textured material is made of polymethylmethacrylate.

18. The solid surface structure of claim 16 wherein the matrix is made of polyvinyl chloride and the visible layer of textured material is made of polyvinyl chloride.

19. The solid surface structure of claim 16 wherein the matrix is made of polycarbonate and the visible layer of textured material is made of polycarbonate.

20. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

(a) providing a first flat non-porous sheet made of a polymeric material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, and polycarbonate;

(b) placing a decorative object on said first sheet of polymeric material wherein the decorative object extends beyond at least one edge of said first sheet of polymeric material;

(c) placing a second flat non-porous unitary sheet of a polymeric material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, and polycarbonate on top of said decorative object wherein the decorative object also extends beyond at least the corresponding edge of said second sheet of polymeric material,

whereby a lay-up sandwich is formed comprised of said first flat sheet of polymeric material, said decorative object which extends beyond at least one edge of both of said sheets of polymeric material, and said second flat sheet of polymeric material;

- (d) loading the lay-up sandwich into a press;
- (e) applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time;
- (f) opening the press to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first and second polymeric material sheets melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

21. The method of claim 20 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

22. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet of polymethylmethacrylate;
- (b) placing a decorative object on said sheet of polymethylmethacrylate wherein the decorative object extends beyond at least one edge of said first sheet of polymethylmethacrylate;
- (c) placing a second flat non-porous unitary sheet of polymethylmethacrylate on top of said decorative object wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polymethylmethacrylate, whereby a lay-up sandwich is formed comprised of said first sheet of polymethylmethacrylate, said

decorative object which extends beyond at least one edge of said first sheet of polymethylmethacrylate, and said second sheet of polymethylmethacrylate wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polymethylmethacrylate;

- (d) loading the lay-up sandwich into a press;
- (e) applying a predetermined amount of heat and pressure to said lay-up sandwich;
- (f) opening the press to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first and second polymethylmethacrylate sheets melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

23. The method of claim 22 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

24. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet of polymethylmethacrylate;
- (b) placing a decorative object on said sheet of polymethylmethacrylate wherein the decorative object extends beyond at least one edge of said first sheet of polymethylmethacrylate;
- (c) placing a second flat non-porous unitary sheet of polymethylmethacrylate on top of said decorative object wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polymethylmethacrylate, whereby a lay-up

sandwich is formed comprised of said first sheet of polymethylmethacrylate, said decorative object which extends beyond at least one edge of said first sheet of polymethylmethacrylate, and said second sheet of polymethylmethacrylate wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polymethylmethacrylate;

- (d) loading the lay-up sandwich into a press;
- (e) heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 40 psi;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 160 psi for a predetermined period of time whereby said first and second polymethylmethacrylate sheets melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

25. The method of claim 24 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

26. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet of polyvinyl chloride;
- (b) placing a decorative object on said sheet of polyvinyl chloride wherein the decorative object extends beyond at least one edge of said first sheet of polyvinyl chloride;

- (c) placing a second flat non-porous unitary sheet of polyvinyl chloride on top of said decorative object wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polyvinyl chloride, whereby a lay-up sandwich is formed comprised of said first sheet of polyvinyl chloride, said decorative object which extends beyond at least one edge of said first sheet of polyvinyl chloride, and said second sheet of polyvinyl chloride wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polyvinyl chloride;
- (d) loading the lay-up sandwich into a press;
- (e) applying a predetermined amount of heat and pressure to said lay-up sandwich;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first and second polyvinyl chloride sheets melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

27. The method of claim 26 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

28. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet of polyvinyl chloride;
- (b) placing a decorative object on said sheet of polyvinyl chloride wherein the decorative object extends beyond at least one edge of said first sheet of polyvinyl chloride;

- (c) placing a second flat non-porous unitary sheet of polyvinyl chloride on top of said decorative object wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polyvinyl chloride, whereby a lay-up sandwich is formed comprised of said first sheet of polyvinyl chloride, said decorative object which extends beyond at least one edge of said first sheet of polyvinyl chloride, and said second sheet of polyvinyl chloride wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polyvinyl chloride;
- (d) loading the lay-up sandwich into a press;
- (e) heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 40 psi;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 160 psi for a predetermined period of time whereby said first and second polyvinyl chloride sheets melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

29. The method of claim 28 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

30. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet of polycarbonate;
- (b) placing a decorative object on said sheet of polycarbonate wherein the decorative object extends beyond at least one edge of said first sheet of polycarbonate;

(c) placing a second flat non-porous unitary sheet of polycarbonate on top of said decorative object wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polycarbonate, whereby a lay-up sandwich is formed comprised of said first sheet of polycarbonate, said decorative object which extends beyond at least one edge of said first sheet of polycarbonate, and said second sheet of polycarbonate wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polycarbonate;

(d) loading the lay-up sandwich into a press;

(e) heating the lay-up sandwich to about 350°F. - 375°F. while applying a pressure of about 40 psi;

(f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;

(g) closing the press and heating the lay-up sandwich to about 350°F. - 375°F. while applying a pressure of about 160 psi for a predetermined period of time whereby said first and second polycarbonate sheets melt together in the lay-up sandwich to provide a unitary product; and,

(h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

31. The method of claim 30 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

32. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

(a) providing a first flat non-porous unitary sheet of polycarbonate;

(b) placing a decorative object on said sheet of polycarbonate wherein the decorative object extends beyond at least one edge of said first sheet of polycarbonate;

- (c) placing a second flat non-porous unitary sheet of polycarbonate on top of said decorative object wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polycarbonate, whereby a lay-up sandwich is formed comprised of said first sheet of polycarbonate, said decorative object which extends beyond at least one edge of said first sheet of polycarbonate, and said second sheet of polycarbonate wherein the decorative object extends beyond at least one corresponding edge of said second sheet of polycarbonate;
- (d) loading the lay-up sandwich into a press;
- (e) applying a predetermined amount of heat and pressure to said lay-up sandwich;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first and second polycarbonate sheets melt together in the lay-up sandwich; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

33. The method of claim 32 wherein the decorative object in step (b) is made of a dry material selected from the group consisting of textile fabric, paper, plastic film, plastic sheet, metallic wire, rod, rod, mesh, bar, wood veneer, dried natural materials, tree bark, plant leaves, petals, and twigs.

34. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet made of a polymeric material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, and polycarbonate;
- (b) placing a flat layer of textured material made of a material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, and polycarbonate, on

said first sheet of polymeric material, wherein the layer of textured material is co-extensive with the edges of said first sheet of polymeric material;

(c) placing a second flat non-porous unitary sheet of a polymeric material selected from the group consisting of polymethylmethacrylate, polyvinyl chloride, and polycarbonate on top of said layer of textured material wherein the second sheet of polymeric material is co-extensive with the edges of said layer of textured material, whereby a lay-up sandwich is formed comprised of said first flat sheet of polymeric material, said flat layer of textured material, and said second flat sheet of polymeric material;

(d) loading the lay-up sandwich into a press;

(e) applying a predetermined amount of heat and pressure to said lay-up sandwich;

(f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;

(g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first polymeric material sheet, said layer of textured material, and said second flat sheet of polymeric material melt together in the lay-up sandwich to provide a unitary product; and,

(h) allowing the product to gradually cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

35. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

(a) providing a first flat non-porous unitary sheet of polymethylmethacrylate;

(b) placing a flat layer of textured polymethylmethacrylate on said first polymethylmethacrylate sheet, wherein the layer of textured polymethylmethacrylate is co-extensive with the edges of said first sheet of polymethylmethacrylate;

- (c) placing a second flat non-porous unitary sheet of polymethylmethacrylate on top of said layer of textured polymethylmethacrylate wherein the second sheet of polymethylmethacrylate is co-extensive with the edges of said layer of textured polymethylmethacrylate, whereby a lay-up sandwich is formed comprised of said first flat sheet of polymethylmethacrylate, said flat layer of textured polymethylmethacrylate, and said second flat sheet of polymethylmethacrylate;
- (d) loading the lay-up sandwich into a press;
- (e) applying a predetermined amount of heat and pressure to said lay-up sandwich;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first polymeric material sheet, said layer of textured material, and said second flat sheet of polymeric material melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

36. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary sheet of polymethylmethacrylate;
- (b) placing a flat layer of textured polymethylmethacrylate on said first polymethylmethacrylate sheet, wherein the layer of textured polymethylmethacrylate is co-extensive with the edges of said first sheet of polymethylmethacrylate;
- (c) placing a second flat non-porous unitary sheet of polymethylmethacrylate on top of said layer of textured polymethylmethacrylate wherein the second sheet of polymethylmethacrylate is co-extensive with the edges of said layer of textured polymethylmethacrylate, whereby a lay-up sandwich is formed comprised of said first flat

sheet of polymethylmethacrylate material, said flat layer of textured polymethylmethacrylate, and said second flat sheet of polymethylmethacrylate;

(d) loading the lay-up sandwich into a press;

(e) heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 40 psi;

(f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;

(g) closing the press and heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 160 psi for a predetermined period of time whereby said first flat sheet of polymethylmethacrylate material, said flat layer of textured polymethylmethacrylate, and said second flat sheet of polymethylmethacrylate melt together in the lay-up sandwich to provide a unitary structure; and,

(h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

37. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

(a) providing a first flat non-porous unitary sheet of polyvinyl chloride;

(b) placing a flat layer of textured polyvinyl chloride on said first polyvinyl chloride sheet, wherein the layer of textured polyvinyl chloride is co-extensive with the edges of said first sheet of polyvinyl chloride;

(c) placing a second flat non-porous unitary sheet of polyvinyl chloride on top of said layer of textured polyvinyl chloride wherein the second sheet of polyvinyl chloride is co-extensive with the edges of said layer of textured polyvinyl chloride, whereby a lay-up sandwich is formed comprised of said first flat sheet of polyvinyl chloride material, said flat layer of textured polyvinyl chloride, and said second flat sheet of polyvinyl chloride;

(d) loading the lay-up sandwich into a press;

- (e) heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 40 psi;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;
- (g) closing the press and heating the lay-up sandwich to about 290°F. - 310°F. while applying a pressure of about 160 psi for a predetermined period of time whereby said first flat sheet of polyvinyl chloride, said flat layer of textured polyvinyl chloride, and said second flat sheet of polyvinyl chloride melt together in the lay-up sandwich to provide a unitary product; and,
- (h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

38. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

- (a) providing a first flat non-porous unitary polycarbonate;
- (b) placing a flat layer of textured polycarbonate on said first polycarbonate sheet, wherein the layer of textured polycarbonate is co-extensive with the edges of said first sheet of polycarbonate;
- (c) placing a second flat non-porous unitary sheet of polycarbonate on top of said layer of textured polycarbonate wherein the second sheet of polycarbonate is co-extensive with the edges of said layer of textured polycarbonate, whereby a lay-up sandwich is formed comprised of said first flat sheet of polycarbonate material, said flat layer of textured polycarbonate, and said second flat sheet of polycarbonate;
- (d) loading the lay-up sandwich into a press;
- (e) applying a predetermined amount of heat and pressure to said lay-up sandwich;
- (f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;

(g) closing the press and applying a predetermined amount of heat and pressure to said lay-up sandwich for a predetermined period of time whereby said first polymeric material sheet, said layer of textured material, and said second flat sheet of polymeric material melt together in the lay-up sandwich to provide a unitary product; and,

(h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

39. A method for manufacturing a flat non-porous unitary solid surface structure comprising the steps of:

(a) providing a first flat non-porous unitary sheet of polycarbonate;

(b) placing a flat layer of textured polycarbonate on said first polycarbonate sheet, wherein the layer of textured polycarbonate is co-extensive with the edges of said first polycarbonate sheet;

(c) placing a second flat non-porous unitary sheet of polycarbonate on top of said layer of textured polycarbonate wherein the second sheet of polycarbonate is co-extensive with the edges of said layer of textured polycarbonate, whereby a lay-up sandwich is formed comprised of said first flat sheet of polycarbonate, said flat layer of textured polycarbonate, and said second flat sheet of polycarbonate;

(d) loading the lay-up sandwich into a press;

(e) heating the lay-up sandwich to about 350°F. - 375°F. while applying a pressure of about 40 psi;

(f) opening the press and removing all pressure from the lay-up sandwich to allow air and gases to escape from the lay-up sandwich;

(g) closing the press and heating the lay-up sandwich to about 350°F. - 375°F. while applying a pressure of about 160 psi for a predetermined period of time whereby said first flat sheet of polycarbonate, said flat layer of textured polycarbonate, and said second flat sheet of polycarbonate melt together in the lay-up sandwich to provide a unitary product; and,

(h) allowing the product to cool while maintaining the pressure at a predetermined level until the product reaches a predetermined temperature at which point the press is opened and the product is removed from the press.

40. A countertop comprised of the flat non-porous unitary solid surface structure of claim 1.
41. A sink comprised of the flat non-porous unitary solid surface structure of claim 1.
42. A lavatory comprised of the flat non-porous unitary solid surface structure of claim 1.
43. A desktop comprised of the flat non-porous unitary solid surface structure of claim 1.
44. A table top comprised of the flat non-porous unitary solid surface structure of claim 1.
45. A chair comprised of the flat non-porous unitary solid surface structure of claim 1.
46. A windowsill comprised of the flat non-porous unitary solid surface structure of claim 1.